

## PATENT COOPERATION TREATY

## PCT



## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 14 FEB 2005

WIPO PCT

Applicant's or agent's file reference MDX,004-PCT	<b>FOR FURTHER ACTION</b> See Form PCT/PEA/416	
International application No. PCT/GB2004/002317	International filing date (day/month/year) 01.06.2004	Priority date (day/month/year) 03.06.2003
International Patent Classification (IPC) or national classification and IPC C22C5/06		
Applicant MIDDLESEX SILVER CO. LIMITED et al.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input checked="" type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand  18.10.2004	Date of completion of this report  10.02.2005	
Name and mailing address of the International preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Brown, A  Telephone No. +49 89 2399-2563 	

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/GB2004/002317

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

**Description, Pages**

1-7, 9-22	as originally filed
8	received on 18.10.2004 with letter of 13.10.2004

**Claims, Numbers**

1-11	received on 18.10.2004 with letter of 13.10.2004
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☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
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**Box No. II Priority**

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1. ☒ This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:  
☒ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).  
☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
2. ☐ This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	9-11
	No: Claims	1-8
Inventive step (IS)	Yes: Claims	
	No: Claims	1-11
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

2. Citations and explanations (Rule 70.7):

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
REPORT ON PATENTABILITY  
(SEPARATE SHEET)**

International application No.

PCT/GB2004/002317

**Re Item V.**

**1. The Prior Art**

D1: WO 02/095082 A (JOHNS PETER GAMON) 28 November 2002 (2002-11-28)

D2: GB-A-2 255 348 (METALEUROP RECH) 4 November 1992 (1992-11-04)

D4: GB-A-1 130 540 (GODDARD & SONS LTD J) 16 October 1968 (1968-10-16)

**2. Article 34 (PCT)**

The amendments filed with the letter dated 13.10.2004 do not introduce subject-matter which extends beyond the content of the application as filed and thereby comply with the requirements of Article 34(2)(b) PCT.

**3. Claims 1-5 - An Ag-Ge-Cu Alloy**

D1 concerns ternary Ag-Ge-Cu alloys and quaternary Ag-Ge-Cu-Zn wherein the Zn is optional and discloses the following alloy composition ranges (see p.11, l.29-31).

92.5-96% Ag, 0.5-2% Ge and 1-7% Cu (the remainder) together with 1-40ppm of B added as a grain refiner. (All figures in wt%)

D2 concerns ternary Ag-Ge-Cu alloys and discloses the alloy composition ranges as follows (see claim 2):

92.5-96% Ag, 0.5-3% Ge, 1-7% Cu. Preferred levels of Ge being 1.5-3% and those of Cu being 4.5-7% (see p.8, l. 15-22).

In order for an alloy composition to be considered new, it is considered that its element

ranges should fulfill the following 3 criteria.

1. The range must be narrow compared to the known range.
2. It should be sufficiently far removed from the known range, illustrated by means of examples and from the end points.
3. The claimed range should not be an arbitrary specimen of the existing prior art, that is there must be a technical effect in choosing the sub-range that teaches something new over the known broader range.

A comparison of the alloy composition of claim 1 with that of D1 reveals that there is a substantial degree of overlap between the element ranges, i.e. the claimed range is not narrow in comparison to that of D1 and the end points of the claimed ranges are close to those of D1.

The question of novelty therefore rests on whether the skilled person in producing an alloy in accordance with D1, would seriously contemplate selecting a composition that satisfies the range for the Cu-Ge ratio described in claim 1. It is considered that the skilled person would typically produce an alloy whose composition lies within the central part of the ranges, i.e. about 94.25% Ag, 1.25% Ge and 4.5% Cu, and that such an alloy would therefore have Cu-Ge ratio that lies within 3-4 : 1. Accordingly, claim 1 would appear to lack novelty with respect to D1.

Claim 1 would appear to lack an inventive step with regard to D2 in combination with the teaching of D1 for the following reason. D2 discloses alloys for jewellery applications that have the composition as stated above. The difference between the claimed alloy and that of D2 is that the claimed alloy contains 1-40 ppm of B. The effect of adding B in this amount is to act as a grain refiner which is known from D1. Thus, starting from D2, the skilled person would add B in an amount of 1-40ppm in order to refine the grain size of the alloys of D2 and thus arrive at the claimed alloy. It should also be noted that example alloy 4 (see p. 5 of D2) has a Cu/Ge ratio of 4 and thus shows that the skilled person would work within the claimed Cu/Ge ratio. Accordingly, the subject matter of claim 1 lacks an inventive step with respect to D1 and D2.

It is not clear which of the additional features in the dependent claims 2-5 could serve as a new and inventive main claim in view of the prior art disclosures. In particular, the

subject matter of claims 2-5 would all appear to lack novelty with respect to D1 and lack inventive step with respect to D2 in combination with D2 (see p. 10, l. 13-22, p.11, l. 14-19, p. 13, l. 19-24 and claim 22 of D1 and p. 8, l. 15-22 of D2).

### **3.1 Claims 6-11 - An Article**

It follows from the above comments regarding the novelty of claims 1-5 that the subject matter of claims 6-8 are known from D1 and D2.

D4 concerns the use of a solution for the protection of silver alloys against tarnishing and general surface discolouration. Disclosed in the use of a solution comprising 99 parts by weight of a volatile organic solvent and 0.1-1.8 parts of an organic solute containing an -SH group (see p.1, l.25-37). The solvent used may be a halohydrocarbon type (see p. 1, l. 75-76) and the best known solute compound are said to be Stearyl and cetyl mercaptans and thioglycollates with ideally C16 and C18 compounds. The solution is said to be suitable for treatment of silver alloys such as Sterling and Britannia silver.

Given the above disclosure in D4, it is considered that it would be obvious to the skilled person starting from D1 which represents the closest prior art and seeking to improve the protection of the alloys against tarnishing, to apply the teaching of D4 and in so doing arrive at the article as described in claims 9-11 . Accordingly, claims 6-8 would appear to lack novelty with respect to D1 and D2, and the subject matter of claims 9-11 would appear to lack an inventive step with respect the combination of either D1 or D2 with the teaching of D4.